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10/616,079	07/08/2003	Stephen H. Zalewski	12745/3	9684

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KENYON & KENYON
Suite 600
333 W. San Carlos Street
San Jose, CA 95110-2711

EXAMINER

NGUYEN, HIEP T

ART UNIT PAPER NUMBER

2187

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,079

Applicant(s)

ZALEWSKI ET AL.

Examiner

Hiep T. Nguyen

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office action is a response to the amendment filed December 8, 2005. Claims 1-36 are pending in the application.

Response to Arguments

2. Applicant's arguments filed December 8, 2005 with regards to the rejection of claims 1-36 under 35 USC 103(a) have been fully considered but they are not persuasive.
 - a. First of all, Applicant argued that Fujibayashi does not teach or suggest the claimed operation of designating the source set of data as primary data source [see the Applicant's remarks filed December 8, 2005, page 10, the first two paragraphs]. However, the examiner respectfully disagrees. When the Fujibayashi system backup data from the primary storage device to a secondary storage device and primarily use the primary storage device for normal operation of the system, such primarily use of the primary storage device is considered designating implicitly or strongly suggested that the data source in the primary storage device as a primary data source. Furthermore, when the system backups one or more copies from a particular data source and the original data source is primarily used for normal operation, such original data source would be considered a primary data source or strongly suggested that the data source is a primary data source. One having ordinary skill in the art would readily recognize such implicit designations. Obviously, one having ordinary skill in the art, who reads the teaching of the Fujibayashi would readily recognize that the system primarily use the local storage device for its normal operations until the local storage device is damaged or not properly functioning. Similarly, one having ordinary skill in the art would readily recognize that the original copy from the local data source would be used primarily by the system during normal operations unless the original copy of the data source is damaged or not functioning properly. Moreover, it is commonly practiced in the art that local mirroring data is for local backup and recovery and that remote data mirroring is for disaster

Art Unit: 2187

recovery. Thus, there is a strong suggestion that the original copy of the Fujibayashi data source is or should be designated as primary data source.

- b. Secondly, Applicant argued that Fujibayashi does not disclose or suggest a method for switching to the physical replica set of data as the primary data source in case the primary data storage medium become damaged and switching to the logical replica set of data as the primary data source in case the source data set in the storage device is corrupted source [see the Applicant 's remarks filed December 8, 2005, page 10, the third paragraph]. Again, the examiner respectfully disagrees. The Fujibayashi system not only locally backups the data source but also remotely backups the data source. As mentioned earlier, it is typically in the pertinent art that local mirroring data is for local backup and recovery and that remote data mirroring is for disaster recovery. When the original copy is no longer usable, the system switches to the backup copy for access. That switching operation is reasonably considered or strongly suggested switching the data source designation. Obviously, when the Fujibayashi local data storage device is not damaged and only the original copy of the data source is damaged, the system would look for a replica copy locally. Of course, when the local storage device is no longer usable, the system would look for a remote copy to keep the system running. Thus, One having ordinary skill in the art, who has the commonly knowledge with regarding to the common concept of local and remote data back, looks at the teaching of Fujibayashi, would lead he or she to combine that commonly teaching into that of the Fujibayashi, if such features are not already inherent in the Fujibayashi system.
- c. Accordingly, the rejection of claims 1-36 in the previous office action is hereby maintained and made final. The rejection is reiterated below for applicant convenience.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujibayashi, US 2003/0131278 in view of well known features of which Official Notice is hereby taken.

a. As per claim 1:

- i. Fujibayashi teaches a method for protecting stored data [see figure 1], comprising:

1. Storing a source set of data (P) on a first storage medium (125) [paragraph 19, lines 11-12];
2. Designating the source set of data as primary data source [this step is inherent in Fujibayashi, as the name of "primary storage device" speaks for itself];
3. Creating a physical replica set of data (S) on a second data storage medium (155) for protection against physical disruptions to the source data set of data [paragraphs 2 and 23]
4. Creating a logical replica set of data (L/S# in the local storage devices 130-140) for protection against logical disruptions to the source set of data [paragraph 20];

- ii. Fujibayashi, however, does not disclose that:

1. If the first data storage medium become damaged, the system switches to the physical replica set of data in the second data storage medium as the primary data source, and

2. If the source data set becomes corrupted, the system switches to the logical replica set of data as the primary data source.
- iii. The concept of switching to a local backup copy as a primary data source in case the primary data source is corrupted or switching to the secondary storage device that contains a remote copy of the primary data source as the primary data source in case the primary storage device is damaged has been known and widely used in the art. One having ordinary skill in the art, who is familiar with the well known concept, looks at the teaching of Fujibayashi, would readily recognize that the local copy (e.g., L/S# in 130-140) is inherently utilized as the primary data source temporarily in case the primary data source (125) is corrupted. This is because the local copy is used to recover the lost data in the primary copy. Furthermore, one having ordinary skill in the art would readily recognize that in case of disaster happens that destroys the primary data storage device, the remote data copy in the secondary storage device would have been used as the primary source of data, temporarily, until the primary storage device and/or primary data copy is rebuilt or recovered. This is simply because the primary data source and/or data storage device is no longer usable. Moreover, one having ordinary skill in the art would readily recognize that backing up a data set is for the purpose of using the backup copy as the primary copy in case the primary copy is no longer usable regardless of whether the primary copy is corrupted or the storage device that contain the primary data set is damaged.
 - iv. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further employ logic into the Fujibayashi system [if such logic is not already inherent in Fujibayashi] for switching to the physical replica set of data (155) as the primary data source in case the primary data storage medium becomes damaged and switching to the logical replica set of data (130-140) as the primary data source in case the source data set (p) in

the storage device (125) is corrupted. The ability to quickly provide the availability of data locally in case of the primary copy is corrupted and/or to survive a disaster that destroys the primary data storage device provide sufficient suggestion and motivation to one having ordinary skill in the art at the time the invention was made to do such logic employment in the Fujibayashi system.

- b. As per claim 2: Fujibayashi further teaches the second data storage medium (155) is physically remote from the first data storage medium (125) [figure 1].
- c. As per claim 3: Fujibayashi further teaches local storage device (130-140) for storing a copy of the data source in the primary storage device (125) [figure 1, paragraph 20].
- d. As per claim 4: Fujibayashi further teaches that the logical replica set of data in the storage devices (130-140) is a snapshot copy of the source set of the data in the storage device (125) [figure 1, paragraph 20].
- e. As per claims 5-6, Fujibayashi further teaches multiple snapshot copies of the source data set, wherein each snapshot copy represent a different point-in-time version [i.e., snapshots ... as a function of time] of the source set of data [see again paragraph 20; and figure 3].
- f. As per claims 7-9, Fujibayashi further teaches that the physical replica set of data is a mirror copy [through the synchronizing operation] of the source set of data [paragraph 23]. Synchronously or asynchronously mirroring a data set has been known and commonly used in the pertinent art. The tradeoff between the synchronously mirroring and asynchronously mirroring a data set is within the level of ordinary skill in the art.
- g. As per claims 10-11: Fujibayashi further teaches that snapshot copies are created from both of the primary data source (p) and the secondary data copy (S) [see figure 1; paragraphs 20 and 23].
- h. As per claim 12: Fujibayashi further teaches that the corrupted source set of data is recovered using the logical replica set of data from storage devices (130-140) [see paragraph 24].

Art Unit: 2187


- i. As per claims 13-24, the claimed system encompasses basically the necessarily elements for carrying out the claimed steps in claims 1-12. Accordingly, claims 13-24 are rejected for the same reasons as set forth for claims 1-12, correspondingly.
- j. As per claims 25-36, the claimed instruction set basically comprises the necessarily instructions for carrying out the steps in claims 1-12. Accordingly, claims 25-36 are rejected for the same reasons as set forth for claims 1-12, correspondingly.

Conclusion

- 5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. West et al., 6,446,175, teaches a data storage backup system that backups data source locally and remotely.
 - b. Nagasawa et al., 6,845,435, teaches a data backup system that uses remote system as a backup while the local system is down.
- 6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
- 7. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.
- 8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep T. Nguyen whose telephone number is (571) 272-4197. The examiner can normally be reached on Monday-Friday from 9:30 am to 6:00 pm.

Art Unit: 2187

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Hiep T Nguyen
Primary Examiner
Art Unit 2187

HTN